LATE BREAKING NEWS

From Bill Miller-
    Bill has in his possesion a prototype version of a Spectrum Stringy Floppy and is investigating the possibility of modifying the design for the TS 2068. If you are interested or just want more information you can reach Bill at:
    6675 Clifford Dr.
    Cupertino, CA 95014
    (408)253-3175

From the East Bay Group-
    The October meeting will feature a Timex/Sinclair SWAP/SALE. Members of all three Bay area groups may participate for free; non-members will be asked to pay $1 entrance fee. Thanx to new member John Ezike for pursuing the idea. Items of interest seem to be any and all materials for the TS 1000 and sw for the 2068.

T/S ON-LINE

Recently released Spectrum emulators and T/S modems are two products that make the T/A 2068 a useful machine despite the bail-out of Timex. I have recently had the use of the Westridge 2050 modem for home on line use. The good news is that this package including its Mterm/T communications software gives you an easy-to-use and effective package for computer communications. I'd like to describe some of my adventures on the phone wires with Bulletin Board Systems (BBS's) that include general service and also some specifically for T/S users.

Compuserve is one of the oldest and largest computer information services. There are literally 100's of sections available that cover a huge range of interests from computers to child raising to livestock price. You can spend many hours and a significant part of your income exploring this huge service. T/S is represented as part of the Computer and Electronics Magazine Special Interest Group (page CEM 450, see Timelinez June,1984). There is a data base for T/S (XA 4) which

LITTLE GOODIES FOR THE 2068

by George Mockridge

The following "little goodies" are a collection of tips, aids, hints, etc. that should prove helpful in 2068 programming. If you have a "little goodie" please send it to TIMELINEZ and we will add it to the list.

‡‡‡‡‡‡ POKE 23609,100 ‡‡‡‡‡‡‡‡‡‡‡
BEEP WHEN ANY KEY PRESSED.

‡‡‡‡‡‡ POKE 23692,255 ‡‡‡‡‡‡‡‡‡‡‡
USE BEFORE EVERY PRINT TO DEFEAT SCROLL.

‡‡‡‡‡‡ POKE 23658,8 ‡‡‡‡‡‡‡‡‡‡‡‡‡
PUT 2068 IN CAPS MODE.

‡‡‡‡‡‡ POKE 23658,0 ‡‡‡‡‡‡‡‡‡‡‡‡‡
TAKE 2068 OUT OF CAPS MODE.

‡‡‡‡‡‡‡ PAUSE 4E4 ‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
PAUSE UNTIL ANY KEY PRESSED.

‡‡‡ POKE 23561,# (#=1 TO 35) ‡‡‡
TIME THAT A KEY MUST BE HELD DOWN BEFORE IT REPEATS. PREFER 10-15 FOR TEXT.

‡‡‡ POKE 23562,# (#=1 TO 5) ‡‡‡‡
DELAY BETWEEN SUCCESSIVE REPEATS OF A KEY HELD DOWN. PREFER 3 FOR TEXT.

‡‡‡‡‡‡‡ USR 15002 ‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
TYPE THIS IN IF YOU FIND YOURSELF IN AN INPUT YOU CAN'T GET OUT OF.

‡‡‡‡‡‡‡ DIM A$(704) ‡‡‡‡‡‡‡‡‡‡‡‡
‡‡‡ PRINT AT 0,0; OVER 1;
    PAPER 1; INK 6; A$ ‡‡‡‡‡‡‡
ALLOWS YOU TO CHANGE PAPER AND INK COLOR WITHOUT CLEARING SCREEN.

‡‡‡‡‡ PRINT #1; AT 0,2; "HI" ‡‡
‡‡‡‡‡ PRINT #1; AT 1,5; "BY" ‡‡
‡‡‡‡‡ PAUSE 4E4 ‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
PRINTS ON LINES 22 AND 23.

has questions and answers about T/S products and peripherals. The general bulletin board at CEM 450 also has a lot of T/S info. Perhaps the most interesting feature is the on line conference at 7 PM every Wed. nite. This is a nation wide realtime converstion about the latest in HW, SW and rumors. The 2 times I have joined in featured info on the emulator, modem software and various other products. It is a good place to ask questions although you will probably receive your answer on the bulletin board if it is too long. The format takes a bit of getting used to since there may be 6 or 7 conversations going on in front of you.

Zebra Systems has an excellent T/S BBS. The good news is that it is free but the bad news is that's in NY and requires a long distance call (718-296-2229). They claim that Sprint and MCI work fine to help save money. Zebra finances the BBS thru the sale of their products, so they make sure you see their latest offerings. They carry a good selection of T/S products which is a great service for out of the way users. The bulletin board, E-mail and T/S Newsletter are all very good and much easier to use than Compuserve for the inexperienced user.

Computer Currents, the local computer bi-weekly, has a Bay Area BBS listing in back of the paper. I recently spent a couple of evenings trying a few out. Some of the more interesting ones are:

***You Neighborhood Story Board
    415-364-4438
A collection of user submitted stories, jokes, reviews and user participation events.

***Parent's Resource Net.#1
    415-647-2560
Children's news, advice for parents and info on childcare and after-school programs.

***Peacenet
    415-495-0526
A BBS for the Peace Movement. This one has news and info, an events calendar, political news and ongoing debate.

***Land of the Lost
    415-595-8680
This is a service for SF and Fantasy game players.

Computer Currents has many other BBS's listed. Some are of general interest, but most are special interest. The BBS's use a number of different software systems. However, the on line instructions are usually adequate. Many of these boards are free (see CC listing or dial on for info). They are an excellent introduction into the mechanics of computer communication, especially if you generate interest in a particular service.

Joel Brody

EBZUG member, Bill Strick, (415) 522-3811 is looking for help to interface Olivetti PR2300 printer to T/S 2068 using Tasman Interface. Seems software for interface will not initialize the printer and printer commands all resist programming. However the printer performs well using same Tasman interface/Tasword Two for straight text. (Note this item!)

COMPUTER CALENDAR

SEPTEMBER

16   Peninsula Users Group
      (415)359-3198   Meeting
      starts at 1 pm.

20   East Bay Z80 User Group
      (415)234-3310   Meeting
      starts at 7:30 pm.

25   Silicon Valley Sinclair/
      Timex User Group   Meeting
      starts at 7 pm.
      (408)738-2888 X4579

29   Walnut Creek School 2nd
      Annual Computer Faire
      (415)934-4636

OCTOBER

6   Computer Swap America
      Santa Clara Co. Fairgrounds
      (415)366-6644

18   East Bay Z80 User Group
      Timex/Sinclair Swap Meet
      (415)234-3310 7:30 pm.

21   Peninsula User Group
      (415)359-3198 1 pm.

28   Silicon Valley TS User Gp
30   (408)738-2888 X4579 7 pm.

Times and locations may differ, please call first.

E B Z U G
East Bay Z80 User Group
654 40th Street
Richmond, CA   94805
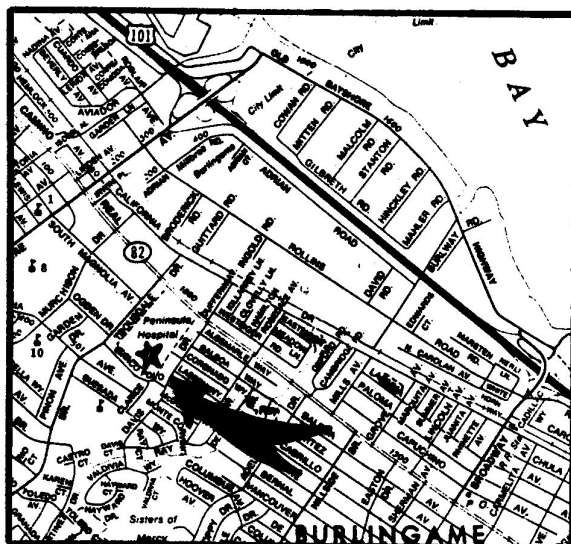(415) 234-3310   or   531-6566

PRESIDENT   Joel Brody
NEWSLETTER EDITOR   Rick Link

EBZUG meets the third Thursday
of each month at:

WEST BRANCH BERKELEY PUBLIC
LIBRARY at the corner of
University and San Pablo.
Meetings start at 7:30 pm.
Bring equipment and power
strips.

UPCOMING   MEETINGS:

SEPTEMBER   20
OCTOBER   18

PENINSULA USER GROUP - PUG
263 Gateway No. 107
Pacifica, CA   94044
(415) 359-3198   or   333-2231

PRESIDENT   George Mockridge
LETTER EDITOR   Frank Moura

PUG meets the third Sunday
of each month at:

PENINSULA HOSPITAL meeting
room in basement. Bring
equipment and extension
cords if possible.
Meetings start at 1 pm.

UPCOMING   MEETINGS:

PENINSULA HOSPITAL
1783 EL CAMINO   SEPTEMBER   16
BURLINGAME   OCTOBER   21

Silicon Valley SINCLAIR/TIMEX
User Group (SVS/TUG)
P.O. BOX 4133
Santa Clara, CA 95054-0133
(408) 738-2888 X4579

PRESIDENT   Rita Carr
NEWSLETTER EDITOR   Bill Miller

SVS/TUG meets the last Tuesday
of each month at:

Dysan Corp. Headquarters
5201 Patrick Henry Drive
Santa Clara, CA

(Please use North entrance
by the loading dock)

UPCOMING   MEETINGS:

SEPTEMBER   25
OCTOBER   30

BREAKING AND SAVING PROGRAMS
by Dennis Jurries

Most programs that you can purchase for the 2068 when loaded start running and if you try breaking into them they dump, lock up the computer, or will not accept the break command. These programs usually consist of at least three programs in one. The first part consists of a simple loader that tells the computer to load the SCREEN$ and load the machine code program and may have some basic program that intermixes with the machine code program. The first part may be hidden when you break into it by having the BORDER, PAPER, and INK colors all the same. Change the paper color if this is so and relist it.

The following procedure works in all cases.

    MC   - machine code
              program name
    Basic   - basic program
              name
    Screen - screen string
              program name

1. LOAD the program until the screen display is displayed then BREAK and LIST. This listing will give you the starting address of the

machine code (found in the line RAND USR #), the name of the MC, and SCREEN$ programs.

2. LOAD the MC program (LOAD "MC" CODE)

3. PEEK the MC program looking for the length. This can be done by looking in the MC until you find a long group of 0's (say 32).

4. SAVE "Basic"LINE 1
    SAVE "Screen"SCREEN$
    SAVE "MC"CODE #1,#2
    #1 is the starting address from RAND USR. #2 is the length of the MC routine determined by subtracting the starting address from the ending address found when you peeked the MC and found the start of the 0's or by using the top of memory 65535 (IE, say start address from RAND USR 42000: 65535-42000 = 23535 then SAVE "MC"CODE 42000, 23535).

5. After completing the above and VERIFING each step, press NEW and ENTER. LOAD the program copy you just made and try it out.

THE "BIN" FUNCTION ON THE T/S 2068 CAN BE USED TO CONVERT BINARY NUMBERS TO DECIMAL. FOR EXAMPLE, THE COMMAND

PRINT BIN 1001

WILL RESULT IN A 9 BEING DISPLAYED.

UNFORTUNATELY, VARIABLES CANNOT BE USED; THE BIN FUNCTION ACCEPTS ONLY 1s AND 0s AS ARGUMENTS. THE MAXIMUM NUMBER IS 65535 (BIN 1111111111111111). BUT ALL ARITHMETIC FUNCTIONS ARE POSSIBLE WITH THE BIN FUNCTION INCLUDING POWERS AND ROOTS. THE COMMAND

PRINT -BIN 1111

DISPLAYS -15. OTHER EXAMPLES

PRINT BIN 1110+BIN 011 DISPLAYS 17.

PRINT (BIN 101)↑3   DISPLAYS 125.

PRINT SQR (BIN 10000) DISPLAYS 4.

PRINT BIN 10100/BIN 101 DISPLAYS 4.

THUS, THE BIN FUNCTION CAN BE VALUABLE TO THOSE LEARNING OR WORKING WITH THE BINARY NUMBER SYSTEM.

Linda Banta of Banta Software Sends Two Programs To Tell if 2040 is ON or OFF

The REM statement is a short machine code routine which must be first line of the program. The other lines can be anywhere and c be modified to give other messages. Banta Software, 8088 Highwood Orangeville, CA 95662 (916)722-4895 has many fine programs for TSZX line and is expanding to include the 2068.

```
Program: printer
    1 REM FLASH CLS G THEN LN <>
9996 LET prt=USR (5+PEEK 23635+2
56*PEEK 23636)
9997 IF prt>16383 THEN PRINT "pr
inter off"
9998 IF prt<=16383 THEN PRINT "p
rinter on"
9999 STOP
```

```
   1 REM <= CLS ?ACS §TAN
   2 POKE 16516,71
9996 LET PRT=USR 16514
9997 IF PRT>16383 THEN PRINT
INTER OFF"
9998 IF PRT<=16383 THEN PRINT
RINTER ON"
9999 STOP
```

From David Hosher:

```
10  ON ERR  GO TO 20
20  LET A$ = INKEY$; PRINT A$: GO TO 20
```

Try to stop it! Try to break, etc. I haven't been able to stop it. I think with a little thought it should be able to write BASIC programs that are very nearly unbreakable!

THE JUNGLE JIM
by
Jim March

Welcome to the TS1000 jungle! I got some good responses from you last month including a call from Tennessee and a letter from Ohio! I'm happy to hear from you no matter where you are in the jungle!

This month let's look at (1) the GOTO statement and (2) how the computer stores a program line in its memory.

The GOTO statement is common to all BASICs. But T/S1000 BASIC lets you use a line number, a variable, or any expression which can be converted into a number. The program example shows how this might make programming easier.

GOTO BASIC Statement ("G" key, code=236). GOTO statement is used to exit from the normal program sequence to a specified line number. The format is:

GOTO (numeric expression)

(numeric expression) is the line number in the program you want to execute next.

Example:

```
 10   LET A$=INKEY$
 20   IF A$<"1" OR A$>"2"
         THEN GOTO 10
 30   GOTO (CODE A$-28)*100
100   PRINT "LINE 100"
110   GOTO 10
200   PRINT "LINE 200"
210   GOTO 10
```

In debugging, the GOTO statement can be used in direct mode to reenter a program at a desired point.

Our advanced topic for this month is how program lines are stored in the T/S1000's memory. After reading this section you can take a look at a program line by running this program:

```
100 REM FIRST LINE
200 REM SECOND LINE
1000 FOR R=16509 TO 16609
1010 PRINT R;" ";PEEK R,CHR$ (PE
EK R)
1020 NEXT R
```

Program Lines—Storage BASIC. All program lines are stored in the program area. This area starts at address 16509 and ends at D_FILE. D_FILE is a system variable which holds the address of the end of the program lines (which is the start of the display file area).

Each line is stored according to strict rules. The first byte holds the more significant byte of the program line number. The second byte holds the less significant byte. The next two bytes give the length of the line including the ENTER byte at the end of the line. (This time, the first byte is the less significant and the second byte is the more significant.) The text of the program line is next. Here, keywords and functions are stored as single-byte codes. The codes are automatically expanded when the line is printed on the screen. The last byte holds the ENTER character (118). To figure out how much space each line will take up in memory, count one byte for each time you press the keyboard and something is added to your program line. In general, keywords or functions take up one byte each. Every letter you type in also takes up one byte. The number of bytes in the text plus 5 equals the amount of memory space the program line uses.

SPECTRUM EMULATOR/CHAMELEON NEWS
User review by Rick Link, EBZUG

When Timex died, loyal American Sinclair users were forced to look elsewhere for software support. The rumored Chameleon, a Spectrum emulator, finally surfaced many months after the funeral. I now own a version called the EMU-1 which I purchased for $60.00 (addresses at the end). The questions I will attempt to answer are: what programs won't work with the EMU-1 and is it the only way to access Spectrum software.

The last question is the easier to answer - no, the EMU-1 is not the only way to emulate a Spectrum. Since receiving my cartridge the big news seems to be series 3 Spectrum ROMs. Supposedly you can simply switch ROMs and turn your 2068 into a Spectrum. Third party manufacturers have also introduced various boards to allow you to switch between ROMs. The bad news is that no matter which way you emulate, you won't be able to run every program available for the Spectrum. On to the first question: what won't work with the EMU-1?

I don't have easy access to the thousands of Spectrum titles that exist nor the funds that such a survey take. I did meet Stuart Ree, a new member of the Peninsula group, who has recently taken up residence in the Bay Area. He used to live in England. He was quite happy to find a way to make use of his approxiamately 250 Spectrum titles that until he converts his Spectrum have lain idle. The result of this meeting is that slowly but surely we are finding what does work of his extensive library.

First: every program has loaded. Second: the only programs that have not run or have crashed soon after starting are strictly of the fast action arcade types OF RECENT VINTAGE. The documentation explains that a new "psuedo-pixel" graphics routine that uses one of the interrupt registers to time frames works differently on the 2068 than on the Spectrum due to differences in US and European electrical standards (50 vs. 60 cycles?) Not all programs use this method. There are probably other difficulties; the claim is that over 90% of Spectrum software will work on the EMU-1. (Spectrum ROM users claim to be able to use an even greater percentage) What does work? Here is what we've learned:

PROGRAM NAME	TYPE	NOTES
Maziacs	Arcade	LOAD""CODE Spectrum version of Mazogs
Mad Martha-2	Adventure	Text and graphics
Quasimodo/ Hunchy	Arcade	*CRASHED* listable-fixable?
Shear Panic	Arcade	generic Apple Panic
Monopoli	Board	4 users
Inherit	Simulation	
Horace goes Sking	Available	for 2068
	Arcade	
Spinads	Arcade	*Loaded but would not respond to keys*
Gal.......	Arcade	*Loaded but would not respond to keys*
Reversi	Board	
Uboat	Simulation	Didn't have doc., looked good/complex
Heathrow	Simulation	complex air traffic controller
Battle of Britian	Simulation	War game
Do Not Pass Go	Board	Monopoli clone
Tasword 2	Word Processor	Available in USA
16/48	Magazine	Fantastic! Incuded at least 10 programs - reviews of others
Atic Atac	Arcade/ Adventure	Excellent graphics

— GRAPHING DATA CONTINUED FROM PAGE 70 —

Point symbols. Unlike Quadra Chart, Graph-It can handle several sets of data at a time. Graph-It will calculate a best linear fit equation for the data. It is user-friendly, and runs quite well on the TS 2068 even though written for the Spectrum. Interested persons can obtain a tape copy of the program at a meeting of EBZUG.

The listing begins at 8900, and this allows Graph-It to be MERGEd on top of the very good spreadsheet program Screencalc by Banta Software. This creats what is to my knowledge the first integrated program for a Timex Sinclair computer. One can go from graphics to spreadsheet by the graphics menu, and from spreadsheet to graphics by entering BASIC and using GOTO 8900. Data can not directly be transfered from spreadsheet to graphics, but can be printed first and then entered once in graphics. (Listing to be printed in full next month!)

Following are graphs prepared by Quadra Chart and by Graph It for the same six data pairs, with y in the 800 to 1200 range. Each graph program has its advantages, but I definitely prefer Graph It. (Graphs on page 70)

The Castle	Adventure	
Text only		
Alchemist	Adventure	Music
is above average		
Wild West	Arcade	Fast
Hero		
Jet Set	Arcade/	
Willy	Adventure	

Excellent! Over 40 screens Good use of sound, music

Hobbit	Adventure

Classic Spectrum Text and Graphic real time adventure

Dictator	Simulation

Spectrum version of ZX81 game Faster, fancier screens Basicallysame game

3D Tanx	Arcade	
Spectral	Arcade	good
Invaders	version of classic	
Centipede	Arcade	
Spawn of Evil	Arcade/	
	Adventure	

Complex shoot im' up

Spectres	Arcade	Nice, new

application of Pac Man layout

Watch for a future review on using a Spectrum ROM and more news on programs that do or do not work.

EMU-1 and EMU-2 available from DOUG DEWEY, 206 JAMES ST., CARRBORO, NC 27510 (919)929-3079 before 9 pm.

Sunset Electronics in the City (see ad) should already be selling a switchable Spectrum/2068 card that is plugged inside.

If you wish to experiment with a Spectrum ROM by yourself make sure it is a series 3 version and watch the price. If you receive any of the many fine English magazines that support the Spectrum you should be able to find a supplier that will send you a ROM for close to $10 including postage; the same thing here can go for as much as $30.

Membership Schedule:

FULL (Newsletter and S/U Library privileges) $15/yr

PARTIAL (Newsletter only) $10/yr

For more information contact:

PENINSULA USER GROUP
George Mockridge
263 Gateway No. 107
Pacifica, CA 94044
(415) 359-3198

SILICON VALLEY SINCLAIR/TIMEX USER GROUP
Rita Carr
P.O. BOX 4133
Santa Clara, CA 95054
(408) 738-2888 X4579

EAST BAY Z80 USER GROUP
Joel Brody
3607 Elston
Oakland, CA 94602
(415) 531-6566 or 234-3310

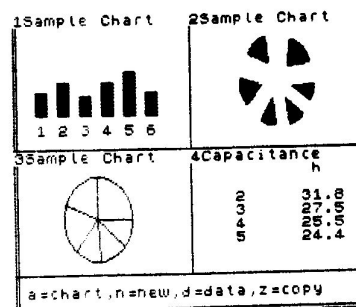(Graph-It listing next month with permission
GRAPHING DATA   of ZX-Computing)

by Donald H. Marks

The ability to graph data is essential for scientists and businesspersons. I will review two graphics programs for the Timex Sinclair 2068 : Quadra Chart and Graph-It. Quadra Chart is a product of Psion Software, which allows the use of four different chart formats: bar, pie-line, pie, and line. The program is menu-driven and user-friendly. Data is entered in up to a maximum of 6 x,y pairs after selection of graph type. Only one data set can be uesd at a time, but it can be applied to one or all graphs. All four graphs can appear on the screen together, or blown up singly. The y-element only of each data set can be altered after entry, which is one of several drawbacks of the software. The x-axis can have divisions labeled 1 to 6. Neither axis can be labeled by the user, but the entire graph can be titled. The y-axis appears only in scale of 1-1000, 1000 to 1 million, and millions, not very versitile, particularly if operating in overlap regions such as 800 tp 1200.

A very adequate program is "Graph-It", which appears in the April-May issue of ZX-Computing. It only performs line-graphs, which can display as points or connected points. Upper and lower limits for x and y-axes are set by the user, as is the number of division lines for each axis. Both axes and the graph itself can be labeled, and you have the choice from three characters for
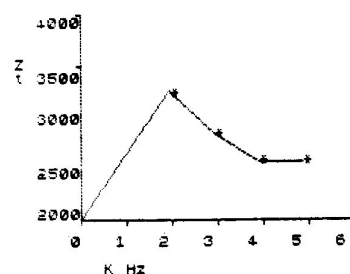
| 1Sample Chart | 2Sample Chart |
| 3Sample Chart | 4Capacitance |

1 2 3 4 5 6

	h
2	31.8
3	27.5
4	25.5
5	24.4

a=chart,n=new,d=data,z=copy

TITLE : CAPACITANCE

X	Y
2	3182
3	2752
4	2552
5	2447

CAPACITANC

TEST NAME IS : CAPACITANCE
THE SLOPE IS : -240.5
THE INTERCEPT IS : 3575
HENCE THE EQUATION IS :
$$Y = -240.5 * X + 3575$$
THE CORRELATION COEFFICIENT IS : -0.95587337

TIMELINEZ
P.O. BOX 1312
PACIFICA, CA 94044

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